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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,476	05/30/2001	Sreedhar Mukkamalla	50277-1517	2036

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EXAMINER

LE, MIRANDA

ART UNIT PAPER NUMBER

2167

DATE MAILED: 01/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/871,476

Applicant(s)

MUKKAMALLA ET AL.

Examiner

Miranda Le

Art Unit

2167

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/06/04 has been entered.
2. This communication is responsive to Amendment A, filed 12/06//2004.
3. Claims 1-26 are pending in this application. Claims 1, 13 are independent claims. In the Amendment A, claims 1, 13 have been amended, claims 25-26 have been added, no claims have been canceled. This action is made non-Final.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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5. Claims 1-5, 10-17, 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamer et al. (US Patent No. 6,035,412), in view of Wong et al. (US Patent No. 5,890,169).

As to claims 1, 13, Tamer teaches a method for database systems to access data from other database systems (col. 2, lines 13-43), the method comprising the steps of:

a first database (i.e. a first data storage system) system directly storing first database records in first data blocks (i.e. first set of volume) having a first data block size (i.e. set of tracks) at col. 2, lines 11-43, col. 3, lines 5-23;

concurrently with said first database system directly storing first database records in first data blocks having a first data block size (i.e. writes its data to the first set of devices) at col. 5, lines 29-49, said first database system directly accessing a copy of second data blocks in which a second database system directly stored second database records (i.e. the data storage system generates a minor copy of that data in the second set of volumes) at col. 5, lines 29-49;

wherein each block of said first data blocks and of said second data blocks is an atomic unit of storage space allocated within a file to store one or more records of a database (i.e. a track of the disk stores a record or bucket) at col. 11, line 59 to col. 12, line 27, col. 7, line 42 to col. 8, line 12;

said second data blocks (i.e. second set of storage volumes) having at least one data block with a second data block size (i.e. set of tracks) different than said first data block size at col. 3, lines 5-23.

Although Tamer does not explicitly teach the two block sizes are different, Wong teaches this limitation at col. 7, lines 24-35.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the cited references because Wong's suggestion of creating a file allocation table file system with different block sizes (col. 7, lines 24-35) would have allowed users of Tamer's to have efficient usage of storage space because large block size would maximize I/O performance while small block size would increase the number of available block sizes, thereby a disk fragmentation could be reduce and maximal storage usage could be achieved (col. 7, lines 16-21).

As to claims 2, 14, Tamer teaches the method further includes the step of integrating said copy of said second data blocks within said first database system as a tablespace that includes said copy of said second data blocks at col. 11, line 509 to col. 12, line 24.

As to claims 3, 15, Tamer teaches the step of accessing a copy of second data blocks includes storing user data in said copy of said second data blocks at col. 12, line 29 to col. 13, line 37.

As to claims 4, 16, Tamer teaches the method further includes the step of detaching one or more tablespaces from said second database system, wherein said one or more tablespaces include said second data blocks at col. 11, line 59 to col. 12, line 24.

As to claims 5, 17, Tamer teaches each data block of said copy of said second data blocks has said second data block size at col. 3, lines 5-23.

As to claims 10, 22, Tamer teaches first data files contain said first data blocks and second data files contain said second data blocks; and wherein the method further includes the step of generating a mapping: between said first data files and said first data block size, and between said second data files and said second data block size at col. 7, line 41 to col. 8, line 67.

As to claims 11, 23, Tamer teaches a first tablespace contains said first data blocks and a second tablespace contains said second data blocks at col. 12, line 50 to col. 13, line 27; and wherein the method further includes the step of generating a mapping: between said first tablespace and said first data block size, and between said second tablespace and said second data block size at col. 7, line 41 to col. 8, line 67.

As to claims 12, 24, Tamer teaches said first database system includes a buffer cache in which said first database system stores data blocks of multiple sizes; and wherein said method further includes the step of storing said first data blocks and said second data blocks in said buffer cache at col. 6, lines 17-65.

6. Claims 6-7, 18-19, 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamer et al. (US Patent No. 6,035,412), in view of Wong et al. (US Patent No. 5,890,169), and further in view of Wong et al. (US Patent No. 5,819,298).

As to claims 6, 18, Tamer, Wong ('169) do not expressly teach the step of generating metadata that specifies a plurality of block sizes for data blocks directly accessible to said first database system. However, Wong ('298) teaches this limitation at col. 14, lines 48-65.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the cited references because Wong ('298)'s suggestion of generating metadata that specifies a plurality of block sizes for data blocks directly accessible to said first database system (col. 14, lines 48-65) would have allowed users of Tamer's to more easily identify the status of all the data block sizes, thereby the allocation of blocks of a disk could be managed efficiently.

As to claims 7, 19, Wong ('298) teaches said metadata defines tablespaces and specifies for each tablespace of said tablespaces a particular data block size for all data blocks in said tablespace at col. 14, lines 48-65;

the method further includes the step of integrating said copy of said second data blocks within said first database system as at least one tablespace that includes said copy of said second data blocks at col. 13, line 19 to col. 14, line 65,

wherein the step of integrating includes modifying said metadata to reflect said second data block size for said at least one tablespace at col. 13, line 19 to col. 14, line 65.

As to claims 25, 26, Tamer teaches a first tablespace includes said first data blocks at col. 7, line 8 to col. 8, line 67;

a second tablespace includes said second data blocks at col. 7, line 8 to col. 8, line 67.

Tamer, Wong ('169) do not specifically teach the method further includes the step of generating metadata that defines the first data block size as a size of data blocks in said first tablespace and defines the second block size as a size of data blocks in said second tablespace"

However, Wong ('298) teaches this limitation at col. 14, lines 48-65.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the cited references because Wong ('298)'s suggestion of generating metadata that defines the first data block size as a size of data blocks in said first tablespace and defines the second block size as a size of data blocks in said second tablespace (col. 14, lines 48-65) would have allowed users of Tamer's to more easily identify the status of all the data block sizes, thereby the allocation of blocks of a disk could be managed efficiently.

7. Claims 8-9, 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamer et al. (US Patent No. 5,970,502), in view of Wong et al. (US Patent No. 5,890,169), and further in view of Mukhopadhyay et al. (US Patent No. 6,032,158).

As to claims 8, 20, Tamer, Wong ('169) do not explicitly teach said first database system is a data warehouse and said second database system is a source database system for said data warehouse. However, Mukhopadhyay teaches this limitation at col. 3, lines 34-59, col. 4, lines 13-38.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the cited references because Mukhopadhyay's suggestion of including said first database system is a data warehouse and said second database system is a source database system for said data warehouse would have allowed users of Tamer's to efficiently capture and propagate changes made upon the source table of an operational database to one or more target tables of data marts (i.e. data warehouses), whereby the impact to the operational database is minimized.

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As to claims 9, 21, Mukhopadhyay teaches the step of integrating said copy of said second data blocks within said data warehouse as a tablespace that includes said copy of said second data blocks at col. 3, lines 34-59, col. 4, lines 13-38.

Response to Arguments

8. Applicant's arguments regarding Salkewicz does not disclose that different sized segments are accessed concurrently during the same synchronization have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

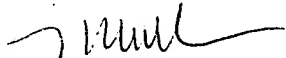
Knutson et al. US 5,870,746

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (571) 272-4112. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene, can be reached on (571) 272-4107. The fax number to this Art Unit is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Miranda Le
December 23, 2004



GRETA ROBINSON
SENIOR EXAMINER